

ABSTRACT OF THE DISCLOSURE

The present invention is directed to a method for the generation of periodic curved structures in a basic support material such as the basic layer for the magnetic bit cells of a magnetic storage device. The method includes the steps of generating a number of diffraction masks such that each mask comprises at least one transmission diffraction gratings having at least one of a different periodic concentric circular pattern, spiral-like periodic pattern and periodic radial spoke pattern; positioning at least one of the diffraction masks simultaneously or successively in a certain distance of the basic support material to be patterned, the distance being mask dependent; exposing the basic support material by directing light beams through each of the diffraction masks; and interfering the different light beams diffracted by the gratings on each mask in order to generate coincident light intensity patterns on the surface of the basic support material.